

An Interactive Demo of the Greenfields Rural Town Planning Simulator

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Since the 1990's there has been a steady and popular market place for town planning simulation computer games. There have however not been any products to cover rural communities. We have developed the Greenfields program to fill this gap. Though not intended to be marketed as a popular high street game, but as educational software to be used in schools, there is a potentially large market base for this product as it can be adapted for countries other than that of its origin (Wales).

The purpose of this poster is to interactively demonstrate how the Greenfields project works and how it will benefit those who use it. Developed in Macromedia Director, the user is presented with a graphical representation of a village, which over time they can send down different paths to an open ended outcome. The user can communicate with the games characters and make decisions on the future of the community based upon their recommendations.

The problem was realism in the simulated environment (figure 1). The concept of the project is that the user plays the part of a consultant bought into a local community to help with the development of the estate and surrounding area. The environment and characters in the game have to dynamic and a choice the makes can cause a number of knock on effects. For example if the users elects to build a factory but then in the future fails to build any housing for new employees the factory will close down.



Figure 1. Greenfields village main screen

To keep the environment realistic there are also random events need to be incorporated to study how a community reacts when it is hit by something which has potentially disastrous consequences. An obvious possible example is the weather (effecting such things as crops, or flooding), but could include more unforeseen problems such as disease. This is felt to be very important for rural communities especially in the light of the 'foot and mouth' crisis which hit rural Britain in 2001/02.

A key contribution in the solution of the development of the simulated environment is the adoption of an AI based framework using agents and a blackboard representation. This is essential for the realistic simulation of the whole environment and thus the playability and educational effectiveness of the game, as any type of social system requires some co-ordination of action.

The Poster will describe the outline of the program structure, broad architecture and solutions used. We will also offer an interactive demo (on a standalone pc/laptop) which will allow delegates to gain hands on experience of the system.